## *Results of Double-star Measures with the 8-inch Equatorial at Windsor, New South Wales, in the Years 1899 and 1900.* By John Tebbutt.

| Ref. No. | Star. | Observed Mags. | Approx. Place of Star at Beginning of Year. R.A. h m | Dec. S. ° ′ | Time of Obs. 1899+ | Position Angle. ° | Distance. ″ | No. of Obs. | Mag. power. | Eyes. | Hour-angles h m | h m | Weight 1 to 5. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | λ Toucani | 7, 8 | 0 48·6 | 70 3 | 1·071 | 81·1 | 21·00 | 10–6 | 138 | R | 4 45 W | 5 13 W | 3 |
| 2 | ζ Phœnicis | 4½, 8 | 1 4·2 | 55 47 | 1·156 | 243·5 | 6·72 | 10–6 | 138 | R | 4 23 W | 4 46 W | 3 |
| 3 | P.I. 127 | 6, 8 | 1 31·5 | 30 25 | 1·060 | 94·4 | 2·02 | 10–7 | 230 | R | 2 43 W | 3 11 W | 3 |
| 4 | ,, | 6, 8 | ,, | ,, | 1·068 | 92·4 | 2·22 | 10–7 | 230 | R | 3 2 W | 3 31 W | 4 |
| 5 | ,, | ... | ,, | ,, | 1·071 | 93·6 | 2·09 | 10–6 | 230 | R | 3 18 W | 3 42 W | 3 |
| 6 | *p* Eridani | ... | 1 36·0 | 56 42 | 1·047 | 223·0 | 8·33 | 10–8 | 230 | R | 2 18 W | 2 58 W | 3 |
| 7 | ,, | ... | ,, | ,, | 1·049 | 222·3 | 7·81 | 10–6 | 230 | R | 1 41 W | 2 22 W | 3 |
| 8 | ,, | ... | ,, | ,, | 1·060 | 223·7 | 8·22 | 10–7 | 230 | R | 1 40 W | 2 20 W | 2 |
| 9 | *θ* Eridani | 5, 6 | 2 54·5 | 40 42 | 1·140 | 87·3 | 8·09 | 6–5 | 230 | R | 3 39 W | 4 2 W | 2 |
| 10 | ,, | 4½, 5½ | ,, | ,, | 1·145 | 87·7 | 8·47 | 10–6 | 230 | R | ... | 2 55 W | 3 |
| 11 | *h* 3556 | 7, 9 | 3 8·9 | 44 48 | 1·077 | 219·7 | 2·52 | 10–5 | 138 | P | 2 37 W | 3 21 W | 3 |
| 12 | ,, | ... | ,, | ,, | 1·085 | 215·5 | 1·89 | 10–3 | 230 | R | 2 53 W | 3 34 W | 3 |
| 13 | ,, | 6½, 9 | ,, | ,, | 1·085 | 219·1 | 2·63 | 10–3 | 138 | P | 2 53 W | 3 34 W | 4 |
| N 14 | *h* $3586_3$ | 6½, 7 | 3 36·1 | 60 6 | 1·156 | 270·8 | 57·43 | 10–4 | 138 | R | 2 39 W | 3 7 W | 3 |
| 15 | *h* $3586_2$ | 7½, 8 | 3 36·2 | 40 41 | 1·145 | 326·9 | 7·75 | 10–6 | 230 | P | 3 13 W | ... | 4 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | $h$ 3586$_2$ | 7½, 8 | 3 36·2 | 40 41 | 1·151 | 327·3 | 7·68 | 10–6 | 138 | P | 3 20 W | 3 57 W | 4 |
| 17 | $f$ Eridani | 6, 6½ | 3 44·9 | 37 56 | 1·151 | 207·6 | 7·46 | 10–6 | 138 | P | 4 0 W | 4 19 W | 3 |
| 18 | ,, | 7½, 8 | ,, | ,, | 1·153 | 208·2 | 7·23 | 7–5 | 138 | R | 1 44 W | 2 14 W | 4 |
| 19 | $\theta$ Reticuli | 7, 8 | 4 16·6 | 63 30 | 1·156 | 2·4 | 3·93 | 10–6 | 138 | P | 2 37 W | 3 4 W | 4 |
| 20 | $\iota$ Pictoris | 6, 6½ | 4 48·7 | 53 38 | 1·175 | 57·8 | 12·15 | 10–5 | 138 | R | 3 14 W | 3 37 W | 3 |
| 21 | ,, | 6, 6½ | ,, | ,, | 1·184 | 58·0 | 11·70 | 10–5 | 138 | R | 1 23 W | 1 50 W | 3 |
| 22 | $h$ 3823 | 8, 8 | 5 56·6 | 31 3 | 1·233 | 112·0 | 2·83 | 10–6 | 300 | R | 3 43 W | 4 12 W | 4 |
| 23 | ,, | ... | ,, | ,, | 1·236 | 112·7 | 2·60 | 10–6 | 300 | R | 3 22 W | 3 52 W | 3 |
| 24 | ,, | 8, 8 | ,, | ,, | 1·299 | 115·2 | 2·69 | 10–8 | 138 | R | 2 59 W | 3 32 W | 3 |
| 25 | Lacaille 2145 | ... | 6 2·2 | 48 27 | 1·156 | 42·2 | ... | 10 | 300 | R | 1 30 W | 1 45 W | 2 |
| 26 | ,, | 7, 7 | ,, | ,, | 1·175 | 41·8 | ... | 10 | 300 | R | 1 6 W | 1 35 W | 3 |
| 27 | ,, | 7, 7 | ,, | ,, | 1·225 | 38·8 | 1·77 | 10–8 | 300 | P | 3 19 W | 3 47 W | 4 |
| 28 | ,, | ... | ,, | ,, | 1·227 | 38·8 | 1·42 | 7–5 | 300 | P | 3 51 W | 4 23 W | 2 |
| 29 | ,, | ... | ,, | ,, | 1·233 | 39·8 | 1·93 | 10–7 | 300 | R | 2 22 W | 2 57 W | 4 |
| 30 | ,, | ... | ,, | ,, | 1·233 | 39·2 | 1·96 | 10–6 | 300 | P | 2 57 W | 3 22 W | 5 |
| 31 | $\gamma$ Argûs A.B. | 2, 3½ | 8 6·5 | 47 2 | 1·101 | 219·9 | 40·09 | 10–5 | 138 | R | 1 58 E | 1 9 E | 3 |
| 32 | ,, | 2, 3½ | ,, | ,, | 1·112 | 219·6 | 41·23 | 10–5 | 138 | P | 3 24 E | 2 55 E | 3 |
| 33 | $\gamma$ Argûs A.C. | 2, 7 | ,, | ,, | 1·112 | 151·4 | 62·05 | 7–4 | ... | P | 2 21 E | 1 46 E | 3 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | γ Argûs A.C. | 2½, 8 | 8 6·5 | 47 2 | 1·126 | 151·8 | 62·08 | 10–5 | 138 | P | 2 23 E | 1 49 E | 3 |
| 35 | α Crucis | ... | 12 21·0 | 62 33 | 1·400 | 117·6 | 4·90 | 10–10 | 300 | P | 4 50 E | 4 28 E | 4 |
| 36 | ,, | ... | ,, | ,, | 1·414 | 119·9 | 5·16 | 10–8 | 300 | R | 2 33 E | 2 9 E | 4 |
| 37 | γ Centauri | ... | 12 36·0 | 48 24 | 0·332 | 356·5 | 1·60 | 10–10 | 300 | P | 2 14 E | 1 43 E | 4 |
| 38 | ,, | ... | ,, | ,, | 0·334 | 357·2 | 1·60 | 10–8 | 300 | P | 1 58 E | 1 32 E | 3 |
| 39 | ,, | 4, 4 | 12 36·0 | 48 25 | 1·299 | 357·6 | 1·84 | 10–10 | 300 | P | 2 28 E | 2 2 E | 4 |
| 40 | ,, | ... | ,, | ,, | 1·301 | 358·6 | 1·84 | 10–10 | 300 | P | 3 35 E | 3 8 E | 4 |
| 41 | ,, | 4, 4 | ,, | ,, | 1·301 | 358·5 | 1·77 | 10–8 | 300 | P | 3 8 E | 2 49 E | 5 |
| 42 | ,, | 4, 4 | ,, | ,, | 1·304 | 356·2 | 1·57 | 10–7 | 535 | P | 1 56 E | 1 30 E | 5 |
| 43 | ,, | 4, 4 | ,, | ,, | 1·310 | 358·2 | 1·51 | 10–8 | 535 | P | 3 41 E | 3 17 E | 5 |
| 44 | ,, | 4, 4 | ,, | ,, | 1·329 | 356·8 | 1·48 | 10–7 | 535 | P | 2 38 E | 2 14 E | 4 |
| 45 | γ Virginis | ... | 12 36·6 | 0 54 | 1·400 | 150·3 | 5·95 | 10–8 | 300 | P | 3 19 E | 2 56 E | 3 |
| 46 | ,, | ... | ,, | ,, | 1·414 | 151·1 | 6·09 | 10–8 | 300 | R | 1 12 E | 0 41 E | 5 |
| 47 | ,, | ... | ,, | ,, | 1·416 | 151·4 | 5·97 | 10–8 | 535 | R | 1 10 E | 0 45 E | 5 |
| 48 | ,, | ... | ,, | ,, | 1·422 | 148·8 | 6·00 | 10–10 | 535 | P | 2 58 E | 2 29 E | 4 |
| 49 | β Muscæ | 4, 4 | 12 40·1 | 67 34 | 1·301 | 341·9 | 1·42 | 10–10 | 300 | R | 2 33 E | 1 51 E | 5 |
| 50 | ,, | 4, 4 | ,, | ,, | 1·304 | 342·8 | 1·08 | 10–10 | 535 | P | 2 54 E | 2 15 E | 5 |
| 51 | ,, | 4, 4 | ,, | ,, | 1·329 | 343·1 | ... | 10 | 535 | R | 2 7 E | 1 39 E | 3 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | $\beta$ Muscæ | ... | 12 40·1 | 67 34 | 1·332 | 341·0 | 1·30 | 10–8 | 300 | P | 2 51 E | 2 9 E | 3 |
| 53 | ,, | ... | ,, | ,, | 1·332 | 343·0 | ... | 10 | 535 | P | 2 51 E | 2 9 E | 4 |
| 54 | ,, | $4\frac{1}{2}$, $4\frac{1}{2}$ | ,, | ,, | 1·419 | 339·2 | ... | 10 | 300 | R | 0 30 E | 0 5 E | 3 |
| 55 | $h$ 4634 | 8, 9 | 13 51·5 | 55 29 | 1·332 | 26·3 | 14·35 | 10–6 | 138 | P | 2 59 E | 2 28 E | 5 |
| 56 | ,, | ... | ,, | ,, | 1·334 | 26·2 | 14·31 | 10–10 | 138 | P | 4 25 E | 3 57 E | 5 |
| 57 | Arg. G. Cat. 19385 | 8, 8 | 14 14·5 | 41 59 | 1·425 | 215·3 | 1·98 | 10–5 | 138 | R | 1 51 E | 1 16 E | 3 |
| 58 | $\alpha$ Centauri | ... | 14 32·7 | 60 25 | 0·323 | 209·0 | 21·74 | 10–10 | 300 | P | 4 23 E | 3 36 E | 3 |
| 59 | ,, | ... | ,, | ,, | 0·332 | 210·6 | 21·99 | 10–10 | 300 | R | 5 6 E | 4 34 E | 2 |
| 60 | ,, | ... | ,, | ,, | 0·334 | 209·7 | 21·90 | 10–6 | 300 | P | 3 21 E | 2 54 E | 3 |
| 61 | ,, | ... | ,, | ,, | 0·337 | 209·5 | 22·14 | 10–8 | 300 | P | 3 29 E | 3 0 E | 3 |
| 62 | ,, | ... | ,, | ,, | 0·340 | 209·8 | 22·21 | 10–10 | 300 | P | 2 56 E | 2 27 E | 3 |
| 63 | ,, | ... | 14 32·8 | 60 25 | 1·301 | 210·7 | 21·87 | 10–10 | 300 | P | 3 32 E | 2 57 E | 3 |
| 64 | ,, | ... | ,, | ,, | 1·304 | 210·8 | ... | 10 | 535 | R | 5 38 E | 4 57 E | 4 |
| 65 | ,, | ... | ,, | ,, | 1·304 | 210·7 | 22·06 | 10–8 | 535 | P | | | 4 |
| 66 | ,, | ... | ,, | ,, | 1·334 | 209·9 | 21·79 | 10–10 | 535 | P | 4 8 E | 3 39 E | 5 |
| 67 | ,, | ... | ,, | ,, | 1·356 | 210·8 | 21·90 | 10–7 | 535 | P | 2 45 E | 2 14 E | 3 |
| 68 | ,, | ... | ,, | ,, | 1·384 | 210·2 | 22·44 | 10–6 | 300 | P | 3 51 E | 3 25 E | 3 |
| 69 | $\pi$ Lupi | 5, 5 | 14 58·3 | 46 40 | 1·416 | 88·1 | 1 17 | 10–8 | 300 | R | 2 54 E | 2 26 E | 5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | h m | ° ′ | 1899+ | ° | ″ | | | | h m | h m | |
| 70 | π Lupi | ... | 14 58·3 | 46 40 | 1·419 | 86·2 | ... | 10 | 300 | R | 2 10 E | 1 47 E | 3 |
| 71 | ,, | ... | ,, | ,, | 1·422 | 86·2 | 1·57 | 10–5 | 300 | R | 0 30 E | 0 8 E | 5 |
| 72 | ,, | ... | ,, | ,, | 1·425 | 85·9 | 1·78 | 10–7 | 300 | R | 1 50 E | 1 26 E | 4 |
| 73 | Antares | 1, 7½ | 16 23·3 | 26 13 | 1·400 | 276·9 | 3·44 | 10–8 | 300 | R | 2 36 E | 1 57 E | 4 |
| 74 | ,, | 1, 7½ | ,, | ,, | 1·422 | 275·1 | 3·33 | 10–10 | 300 | R | 2 29 E | 2 4 E | 4 |
| 75 | ,, | 1, 8 | ,, | ,, | 1·425 | 275·7 | 3·23 | 10–8 | 300 | R | 2 41 E | 2 18 E | 4 |
| 76 | β 416 | 6½, 8 | 17 12·1 | 34 53 | 1·416 | 300·1 | 1·42 | 10–6 | 300 | P | 4 25 E | 3 58 E | 4 |
| 77 | ,, | 6½, 8 | ,, | ,, | 1·422 | 298·7 | 2·07 | 10–7 | 300 | P | 2 14 E | 1 49 E | 4 |
| 78 | ,, | 6½, 7½ | ,, | ,, | 1·425 | 298·2 | 2·36 | 10–8 | 300 | R | 3 0 E | 2 32 E | 4 |
| 79 | γ Coronæ Aust. | 6, 6 | 18 59·7 | 37 12 | 1·400 | 143·3 | 1·93 | 10–8 | 300 | P | 4 18 E | 3 53 E | 3 |

*Remarks.*

In the column headed "Eyes" P denotes that the line joining the observer's eyes was parallel to that joining the components, and R that those lines were at right angles. The column headed "Hour-angles" gives the hour-angles between which the measures were made, and that headed "Weight" the value of each result on a scale of 1 to 5, 1 denoting the worst possible, and 5 the best possible, conditions. 2, companion dull blue. 8, observations in twilight. 11, 12, 13, measures difficult, owing to inequality of components; companion faint and bluish. 22, 23, 24, 35, 36, 39, 41, 42, 43, 44, 45, 46, 47, 49, 50, 51, 57, 69, 71, 72, 79, components noted equal. 26, 27, the preceding or south component evidently the brighter. 35, measures in full daylight. 36, measures in twilight. 37, the north component probably the brighter. 48, measures in sunlight and twilight. 55, 56, principal star white and companion blue. 73, 74, 75, principal star orange and companion pale blue.

*The Peninsula, Windsor, N.S. Wales:*
1901 *March* 25.

## *Errata.*

Vol. LXI., page 342, *for* + 43° 33′ 39″·51, *read* + 43° 33′ 42″·51.

„ „ 344, Star 59, *for* 7·4506, *read* 7·4454.

„ „ 347, Star 155, *for* 3·9712. *read* 3·9612.